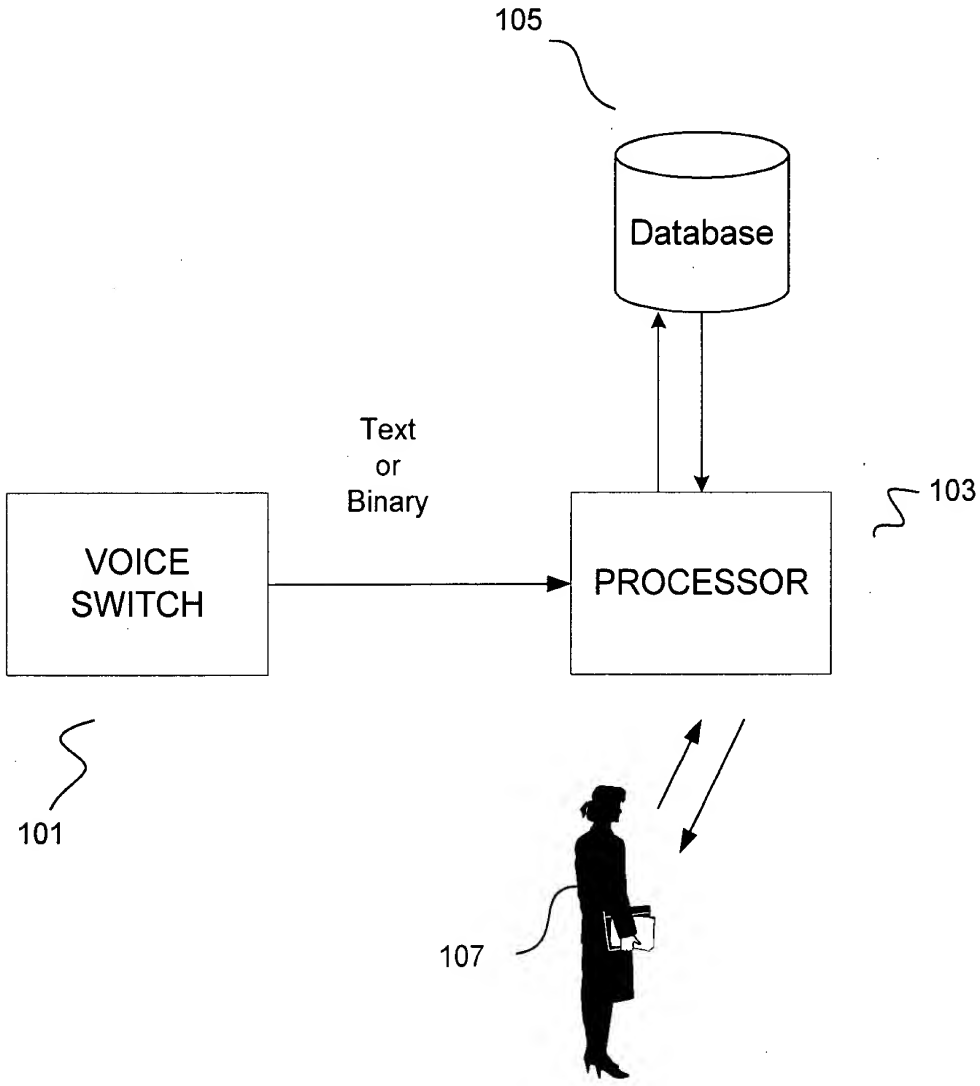


FIG. 1

PRIOR ART

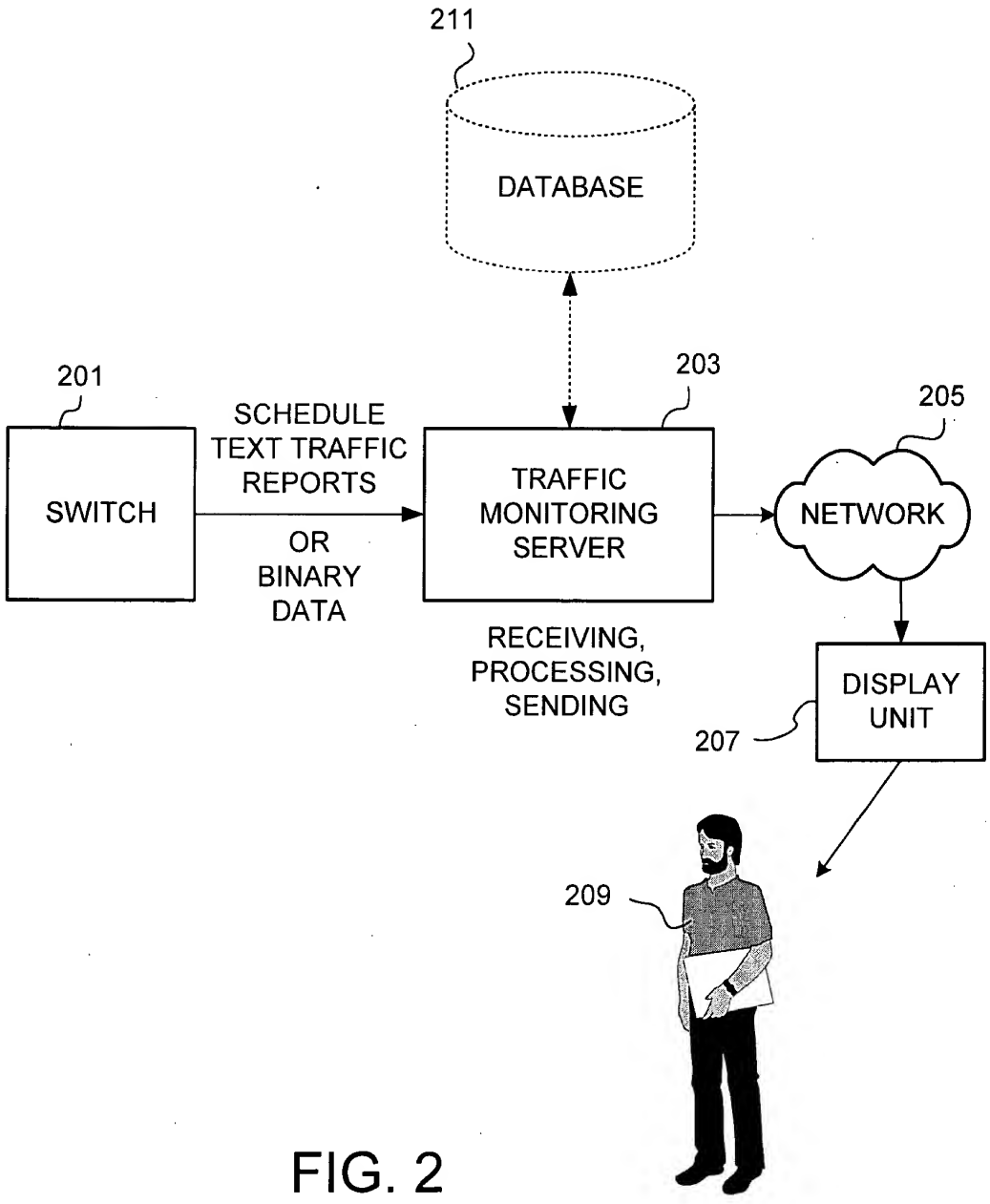

211
DATABASE
201
SWITCH
SCHEDULE
TEXT TRAFFIC
REPORTS
OR
BINARY
DATA
203
TRAFFIC
MONITORING
SERVER
205
NETWORK
RECEIVING,
PROCESSING,
SENDING
DISPLAY
UNIT
207
209

FIG. 2

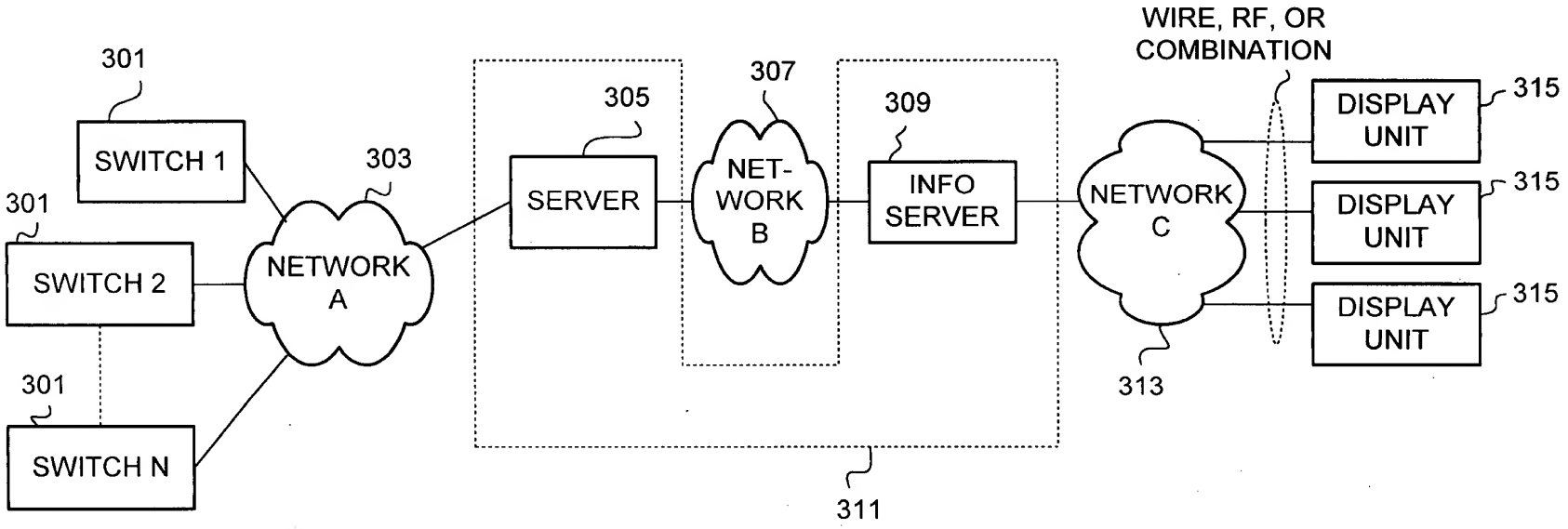

WIRE, RF, OR
COMBINATION
301
SWITCH 1
301
SWITCH 2
301
SWITCH N
303
NETWORK
A
305
SERVER
307
NET-
WORK
B
309
INFO
SERVER
311
NETWORK
C
313
DISPLAY
UNIT
315
DISPLAY
UNIT
315
DISPLAY
UNIT
315

FIG. 3

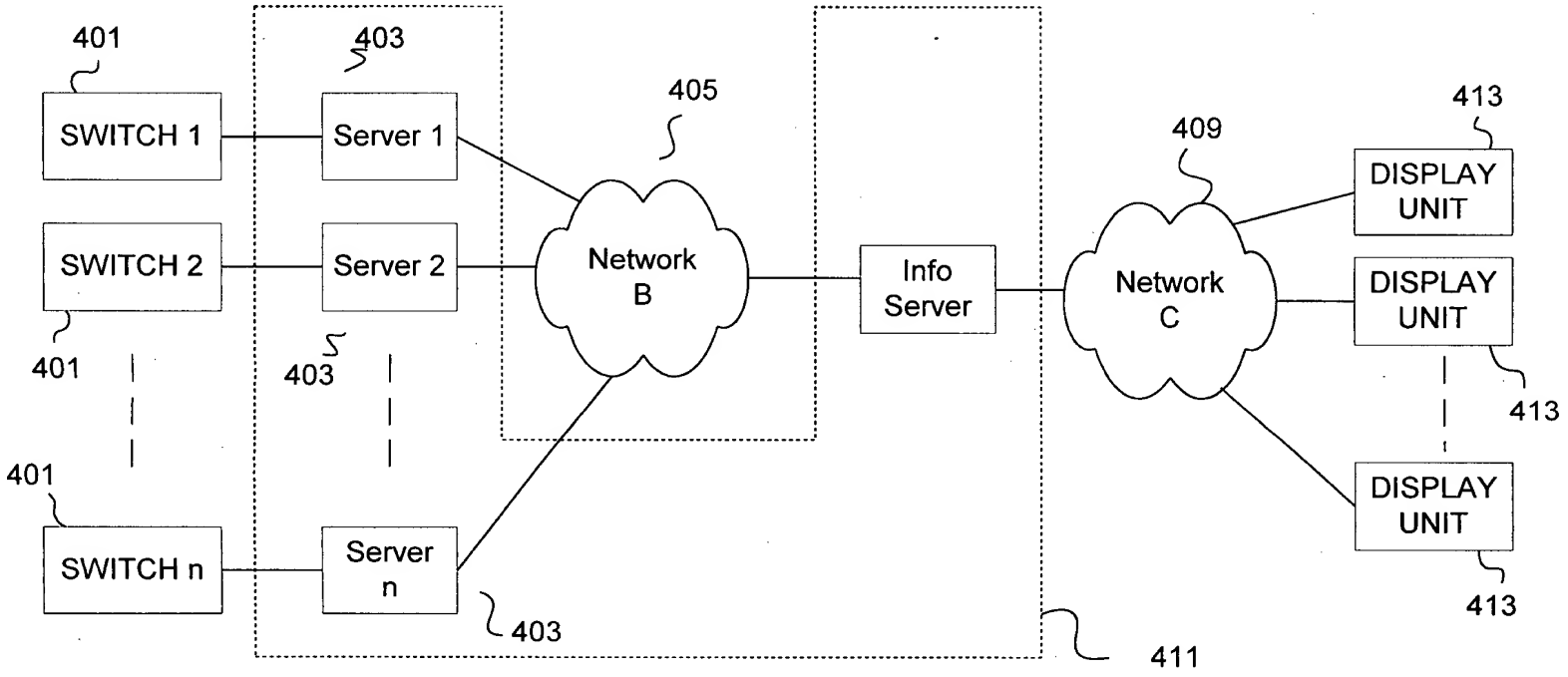

401
403
405
409
413
SWITCH 1
Server 1
SWITCH 2
Server 2
Network B
Info Server
Network C
DISPLAY UNIT
DISPLAY UNIT
DISPLAY UNIT
401
403
413
401
SWITCH n
Server n
403
411
413

FIG. 4

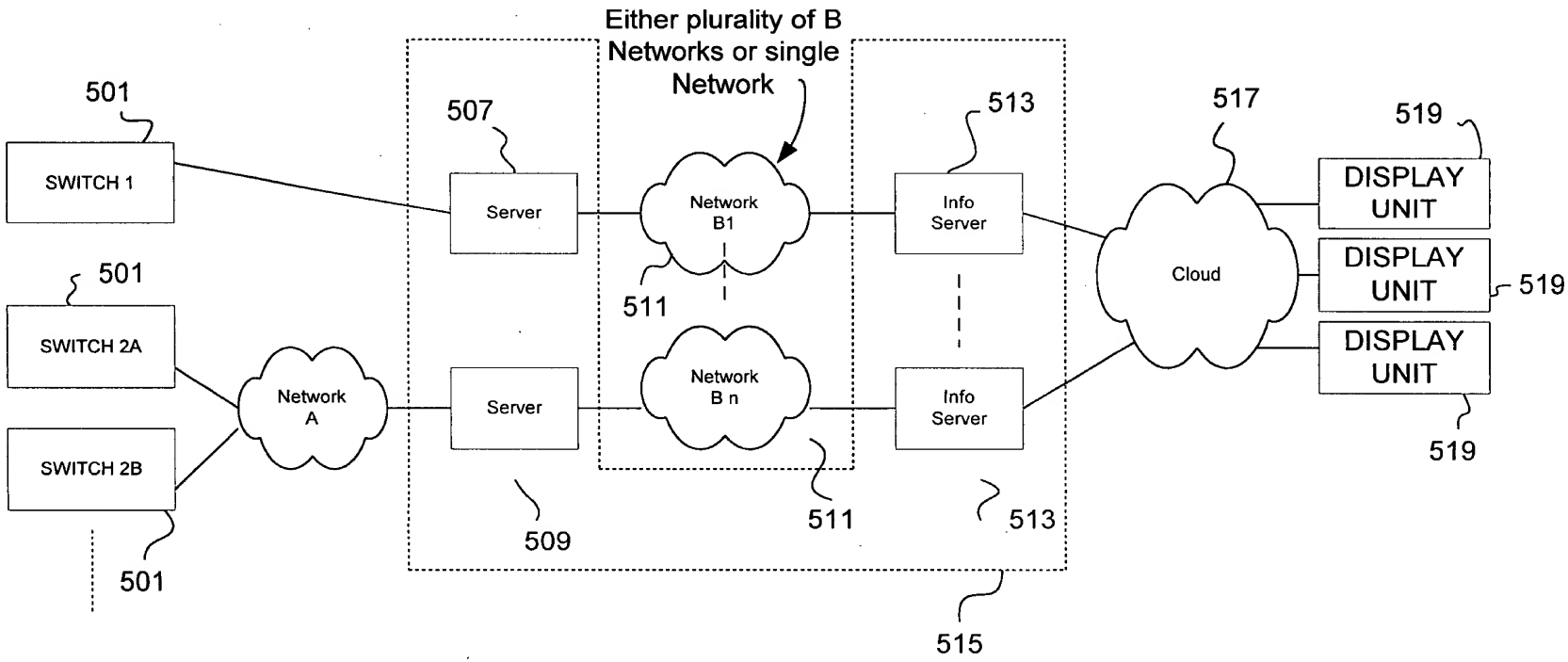

Either plurality of B Networks or single Network
501
SWITCH 1
501
SWITCH 2A
SWITCH 2B
501
Network A
507
Server
Server
509
Network B1
Network B n
511
511
513
Info Server
Info Server
513
515
517
Cloud
519
DISPLAY UNIT
DISPLAY UNIT
DISPLAY UNIT
519
519

FIG. 5

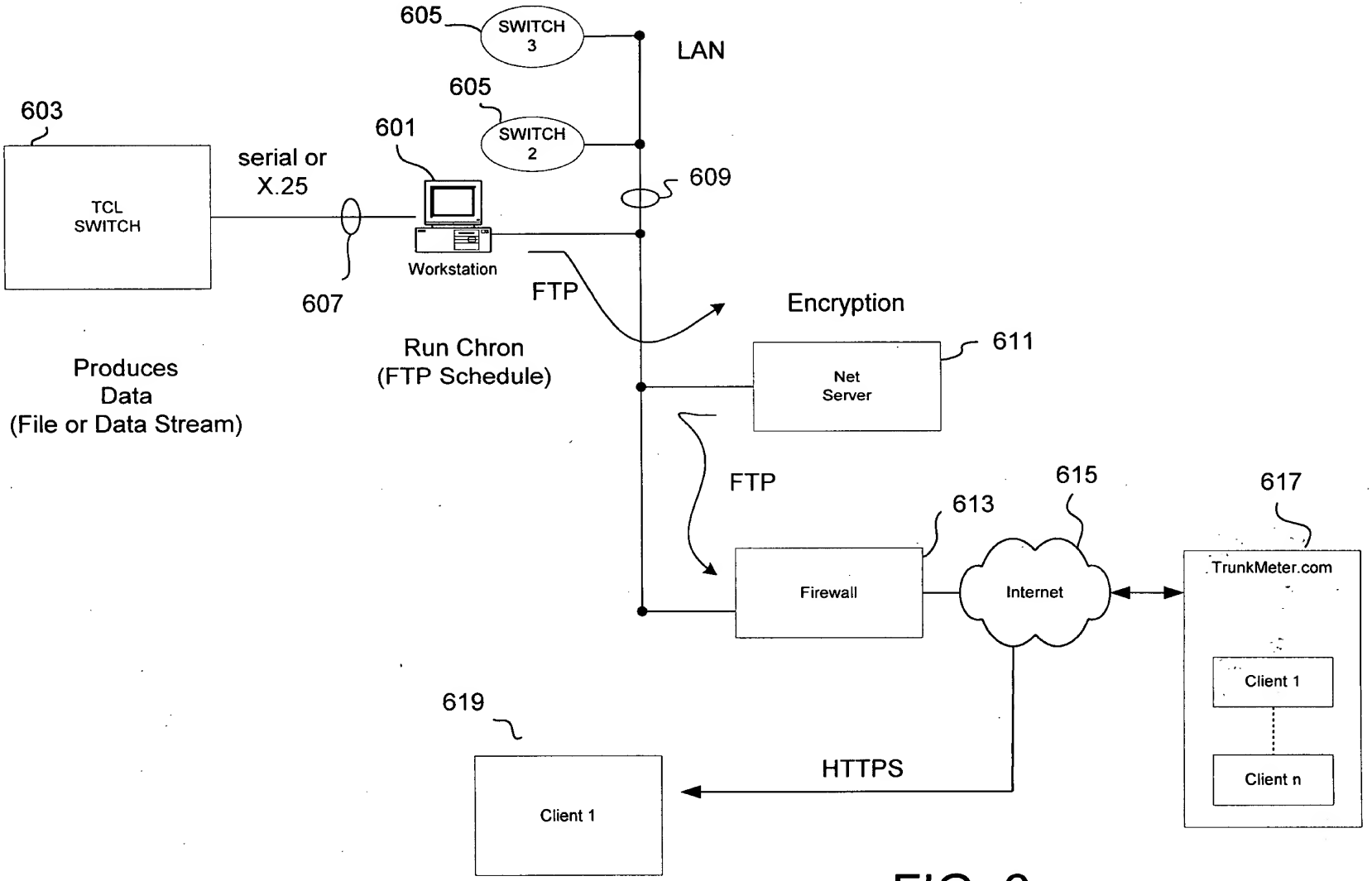

605
SWITCH 3
LAN
605
SWITCH 2
603
601
609
serial or X.25
TCL SWITCH
Workstation
607
FTP
Encryption
Run Chron (FTP Schedule)
611
Net Server
Produces Data (File or Data Stream)
FTP
615
617
613
Firewall
Internet
TrunkMeter.com
Client 1
Client n
619
HTTPS
Client 1

FIG. 6

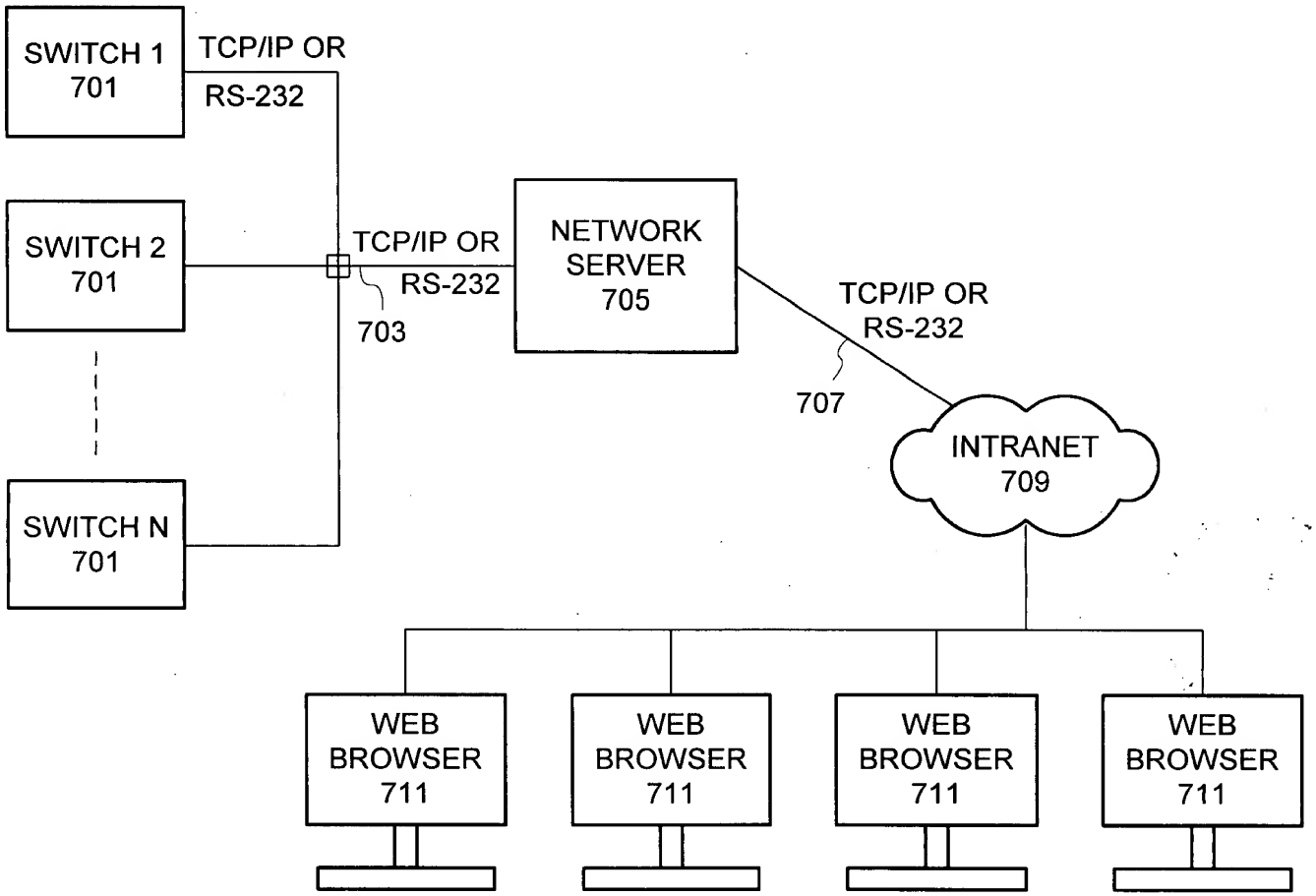

SWITCH 1
701
TCP/IP OR
RS-232
SWITCH 2
701
SWITCH N
701
TCP/IP OR
RS-232
703
NETWORK
SERVER
705
TCP/IP OR
RS-232
707
INTRANET
709
WEB
BROWSER
711
WEB
BROWSER
711
WEB
BROWSER
711
WEB
BROWSER
711

FIG. 7

Home Help

Switch Traffic Status Display

Switch ID	Latest Data	# TGs in Overflow	# TGs >90% Util	Switch ID	Latest Data	# TGs in Overflow	# TGs >90% Util
Penryn	9/2/99 09:00	2		Colfax	9/2/99 11:00		
Auburn	9/2/99 10:00	3		Soda Springs	9/2/99 10:00	1	
Yuba City	9/2/99 10:00	2					

FIG. 8

Display: Basic | Full | Peak Usage | Raw Data | Data Avail

Sort: Overflow | OOS Trunks | MHT | ASR | TG Sizing

Home Help Index

Soda Springs Hourly Traffic Start: 02-Sep-99 09:00 Stop: 02-Sep-99 10:00

Trunk Group	Utilization (Erlang B P.01)	OOS Trunks	OG Ovfl	Trunk Group Description	Messages	History
T0721	79 %			Colfax 2 way	View	View
T0731	64 %			Penryn Incoming	View	View
T0822	60 %			SCRM01	View	View
T0724	59 %			Yuba City Tandem	View	View
T0771	38 %			Auburn PSAP	View	View
T0841	23 %			Yolo Tie 2way	View	View
T0863	22 %	1		Woodland 2w - under test	View	View
T0623	21 %		68 (6%)	Voice Mail	View	View
T0722	20 %			PRI to Customer Care	View	View
T0772	20 %			Directory Assistance	View	View
T0862	20 %			Operator Svcs	View	View
T0861	20 %			Modem Pool	View	View
T0842	17 %			Acme Door Corp DID	View	View
T0733	16 %			Acme Door DOD	View	View
T0725	12 %			-	View	View
T0726	8 %			-	View	View

FIG. 9

Home Help Index

Display: Basic **Full** Peak Usage Raw Data Data Avail
Sort: Overflow OOS Trunks MHT ASR TG Sizing

Soda Springs Hourly Traffic Start: 02-Sep-99 09:00 Stop: 02-Sep-99 10:00

CSV format

Trunk Group	Utilization (Erlang B P.01)	OOS Trunks	OG Ovfl	Trunks Reqd	Trunks Avail	MHT (sec)	OG ASR	CCS/Hr	IC Call Att	Ca
T0721	79 %			155	192	122	85 %	4886	1936	2
T0731	64 %			31	44	107	84 %	751	409	2
T0822	60 %			91	144	140	82 %	2705	0	1
T0724	59 %			9	12	71	-	125	175	
T0771	38 %			7	12	159	98 %	81	0	
T0841	23 %			9	24	53	98 %	126	0	2
T0863	22 %	1		21	71	143	71 %	452	220	
T0623	21 %		68 (6%)	21	72	44	77 %	436	3	1
T0722	20 %			3	6	78	-	14	18	
T0772	20 %			5	12	93	-	42	45	
T0862	20 %			14	48	66	-	257	389	
T0861	20 %			14	48	67	92 %	257	0	3
T0842	17 %			8	24	59	-	91	153	
T0733	16 %			7	24	82	*	89	109	
T0725	12 %			6	24	78	*	67	86	
T0726	8 %			5	24	65	-	43	66	

FIG. 10

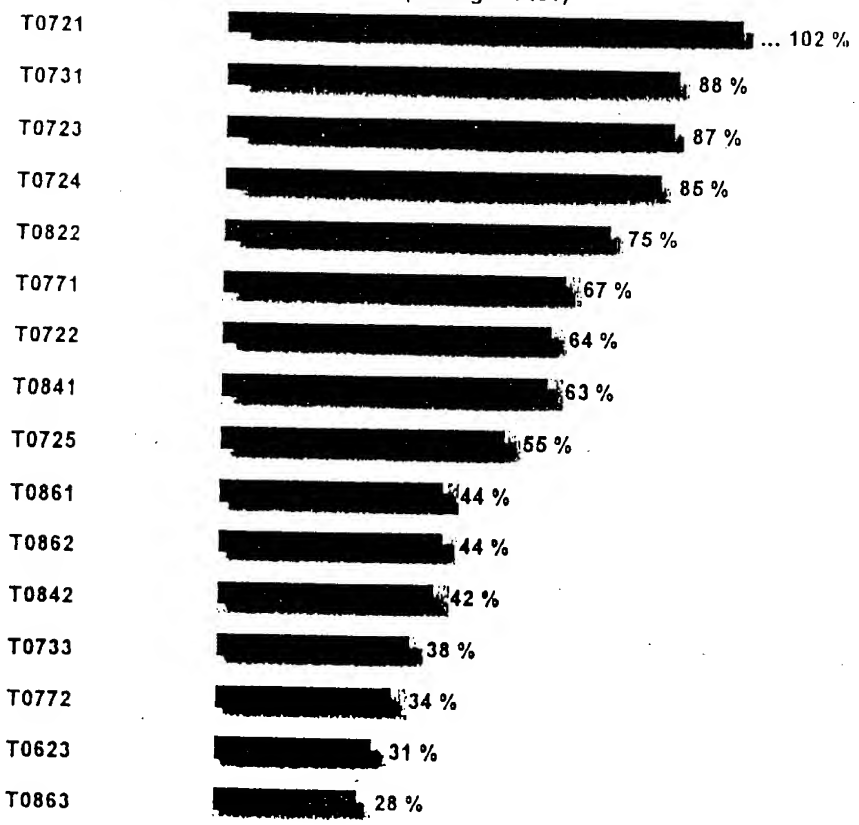
Display: Basic | Full | Peak Usage | Raw Data | Data Avail

Home | Help | Index

Sort: Overflow | OOS Trunks | MHT | ASR | TG Sizing

Soda Springs 30 day Peak Usage as of: 02-Sep-99 10:00

CSV format



Trunk Group	Peak CCS/Hr	Peak OG Ovfl	Date of Peak	Peak Hour	Peak TrksReqd	TrksAvail at Peak	Current TrksAvail
T0721	6306		9/1/99	16:00	196	192	192
T0731	1034		8/31/99	16:00	40	44	44
T0723	60		8/26/99	15:00	6	6	6
T0724	180		8/31/99	17:00	11	12	12
T0822	3419		9/1/99	16:00	112	144	144
T0771	141		8/20/99	09:00	10	12	12
T0722	44		9/1/99	11:00	5	6	6
T0841	330		8/27/99	17:00	17	23	24
T0725	305		9/1/99	16:00	16	24	24
T0861	569		8/30/99	17:00	25	48	48
T0862	568		8/30/99	17:00	25	48	48
T0842	231		8/20/99	16:00	13	24	24
T0733	207		8/27/99	15:00	12	24	24
T0772	73		8/24/99	12:00	7	12	12
T0623	638	6%	8/27/99	16:00	27	72	72
T0863	581		8/30/99	20:00	26	72	71

FIG. 11

FIG. 12

Display: Basic | Full | Peak Usage | Raw Data | Dat

Sort: Overflow | OOS Trunks | MHT | ASR | TG :

Home | Help | Index

Soda Springs Raw Traffic Data Start: **02-Sep-99 09:00** Stop: **02-Sep-99 10:00**

HOUR 10
SW 01 09/02/99 09:00 09/02/99 10:00

T0001	17	00009	00000	00000	00000	00000	00000	00000	00033	00000	00000	00000
	00000	000000431	00000									
T0002	17	00010	00000	00000	00000	00000	00000	00000	00008	00000	00000	00000
	00000	000000141	00000									
T0003	17	00011	00000	00000	00000	00000	00000	00000	00013	00000	00000	00000
	00000	000000192	00000									
T0004	17	00009	00000	00000	00000	00000	00000	00000	00003	00000	00000	00000
	00000	000000091	00000									
T0005	17	00008	00000	00000	00000	00000	00000	00000	00011	00000	00000	00000
	00000	000000133	00000									
T0006	17	00008	00000	00000	00000	00000	00000	00000	00012	00000	00000	00000
	00000	000000238	00000									
T0007	17	00006	00000	00000	00000	00000	00000	00000	00007	00000	00000	00000
	00000	000000089	00000									
T0008	17	00011	00000	00000	00000	00000	00000	00000	00015	00000	00000	00000
	00019	000000234	00000									
T0009	17	00006	00000	00000	00000	00000	00000	00000	00004	00000	00000	00000
	00000	000000053	00000									
T0010	17	00006	00000	00000	00000	00000	00000	00000	00009	00000	00000	00000
	00000	000000073	00000									
T0011	17	00011	00000	00000	00000	00000	00000	00000	00014	00000	00000	00000
	00000	000000131	00000									
T0012	17	00007	00000	00000	00000	00000	00000	00000	00017	00000	00000	00000
	00000	000000214	00000									
T0013	17	00007	00000	00000	00000	00000	00000	00000	00013	00000	00000	00000
	00000	000000167	00000									
T0014	17	00006	00000	00000	00000	00000	00000	00000	00010	00000	00000	00000
	00000	000000120	00000									
T0015	17	00006	00000	00000	00000	00000	00000	00000	00009	00000	00000	00000
	00000	000000064	00000									
T0016	17	00007	00000	00000	00000	00000	00000	00000	00021	00000	00000	00000
	00000	000000286	00000									
T0018	17	00009	00000	00000	00000	00000	00000	00000	00015	00000	00000	00000
	00000	000000247	00000									
T0019	17	00006	00000	00000	00000	00000	00000	00000	00004	00000	00000	00000
	00000	000000059	00000									
T0020	17	00006	00000	00000	00000	00000	00000	00000	00015	00000	00000	00000
	00000	000000128	00000									
T0021	17	00010	00000	00000	00000	00000	00000	00000	00047	00000	00000	00000
	00000	000000495	00000									
T0022	17	00013	00000	00000	00000	00000	00000	00000	00053	00000	00000	00000
	00000	000000772	00000									
T0023	17	00006	00000	00000	00000	00000	00000	00000	00007	00000	00000	00000
	00000	000000101	00000									
T0024	17	00006	00000	00000	00000	00000	00000	00000	00006	00000	00000	00000
	00000	000000111	00000									
T0025	17	00008	00000	00000	00000	00000	00000	00000	00021	00000	00000	00000
	00000	000000228	00000									
T0026	17	00007	00000	00000	00000	00000	00000	00000	00007	00000	00000	00000
	00000	000000093	00000									

Display: Basic Full Peak Usage Raw Data Data

Sort: Overflow OOS Trunks MHT ASR TG

Soda Springs 30 Day Data Availability

Data Available L Latest Data nd No Data

Date	Hour 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
10-Aug-99																								
11-Aug-99			nd	nd	nd	nd	nd																	
12-Aug-99																		nd						
13-Aug-99								nd	nd				nd				nd							
14-Aug-99										nd														
15-Aug-99																						nd	nd	nd
16-Aug-99	nd	nd	nd	nd	nd	nd	nd	nd										nd						
17-Aug-99				nd	nd																		nd	nd
18-Aug-99			nd					nd			nd													
19-Aug-99									nd		nd	nd				nd	nd	nd	nd	nd	nd	nd	nd	nd
20-Aug-99	nd	nd	nd	nd	nd	nd	nd																	
21-Aug-99																								
22-Aug-99																								
23-Aug-99										nd	nd				nd	nd								
24-Aug-99														nd										
25-Aug-99																								
26-Aug-99														nd	nd									
27-Aug-99																						nd	nd	nd
28-Aug-99	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
29-Aug-99	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
30-Aug-99	nd	nd	nd	nd	nd	nd	nd	nd			nd											nd	nd	nd
31-Aug-99	nd	nd	nd	nd	nd																			
01-Sep-99																								
02-Sep-99									L															

FIG. 13

Soda Springs Hourly Traffic (Overflow Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	OG Ovfl	OOS Trunks	Current TrksReqd	Current TrksAvail	MHT (sec)	OG ASR
T0823	23 %	61 (6%)		22	72	46	77 %
T0721	86 %			167	192	118	84 %
T0724	78 %			11	12	83	*
T0822	66 %			100	144	135	80 %
T0731	63 %			31	44	98	87 %
T0771	41 %			7	12	187	91 %
T0723	35 %			4	6	120	*
T0862	31 %			20	48	82	-
T0861	31 %			20	48	84	91 %
T0841	30 %			11	24	52	99 %
T0772	25 %			6	12	137	-
T0863	22 %			21	72	118	77 %
T0842	21 %			9	24	56	-
T0733	17 %			8	24	59	*
T0725	17 %			8	24	86	-
T0726	9 %			5	24	47	-

FIG. 14

Soda Springs Hourly Traffic(OOS Trunks Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	OOS Trunks	OG Ovfl	Current TrksReqd	Current TrksAvail	MHT (sec)	OG ASR
T0624	0%	96		0	0	-	-
T0751	0%	24		0	0	-	-
T0864	0%	24		0	0	-	-
T0621	0%	1		0	23	-	-
T0622	0%	1		0	23	-	-
T0771	41 %			7	12	187	91 %
T0723	35 %			4	6	120	*
T0862	31 %			20	48	82	-
T0861	31 %			20	48	84	91 %
T0841	30 %			11	24	52	99 %
T0772	25 %			6	12	137	-
T0863	22 %			21	72	118	77 %
T0842	21 %			9	24	56	-
T0733	17 %			8	24	59	*
T0725	17 %			8	24	86	-
T0726	9 %			5	24	47	-

FIG. 15

T0STHO 2TTSH2BD

Display: Basic Full Peak Usage Raw Data Data Avail

Home Help Index Sort: Overflow OOS Trunks MHT ASR TG Sizing

Soda Springs Hourly Traffic (MHT Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	MHT (sec)	OOS Trunks	OG Ovfl	Current TrksReqd	Current TrksAvail	OG ASR
T0732	0.9%	9			2	24	-
T0623	23 %	46		61 (6%)	22	72	77 %
T0726	9 %	47			5	24	-
T0722	7 %	50			2	6	-
T0841	30 %	52			11	24	99 %
T0842	21 %	56			9	24	-
T0733	17 %	59			8	24	*
T0862	31 %	82			20	48	-
T0724	78 %	83			11	12	*
T0861	31 %	84			20	48	91 %
T0725	17 %	86			8	24	-
T0731	63 %	98			31	44	87 %
T0700	0.4%	100			2	24	100 %
T0721	86 %	118			167	192	84 %
T0863	22 %	118			21	72	77 %
T0723	35 %	120			4	6	*

FIG. 16

Display: Basic | Full | Peak Usage | Raw Data | Data Avail

Home | Help | Index | Sort: Overflow | OOS Trunks | MHT | ASR | TG Sizing

Soda Springs Hourly Traffic (ASR Sorted) Start: 02-Sep-99 10:00 Stop: 02-Sep-99 11:00

Trunk Group	Utilization (Erlang B P.01)	OG ASR	OOS Trunks	OG Ovfl	Trunks Reqd	Trunks Avail	MHT (sec)
T0623	23 %	77 %		61 (6%)	22	72	46
T0863	22 %	77 %			21	72	118
T0822	66 %	80 %			100	144	135
T0721	86 %	84 %			167	192	118
T0731	63 %	87 %			31	44	98
T0771	41 %	91 %			7	12	187
T0861	31 %	91 %			20	48	84
T0841	30 %	99 %			11	24	52
T0700	0.4%	100 %			2	24	100
T0862	31 %	-			20	48	82
T0772	25 %	-			6	12	137
T0842	21 %	-			9	24	56
T0725	17 %	-			8	24	86
T0726	9 %	-			5	24	47
T0722	7 %	-			2	6	50
T0732	0.9%	-			2	24	9

FIG.17

Soda Springs Trunk Group Sizing Analysis for Peak Usage as of: 02-Sep-99 11:00

Trunk Group	Peak Utilization (Erlang B P.01)	Over/Under Trunking	Peak TrksReqd	Current TrksAvail	Peak OG Ovfl
Trunk Groups without enough capacity					
T0721	[redacted] ... 102 %	- 4	198	192	
Trunk Groups with sufficient or extra capacity					
T0863	[redacted] 28 %	+ 46	26	72	6%
T0623	[redacted] 31 %	+ 45	27	72	
T0822	[redacted] 75 %	+ 32	112	144	
T0224	0%	+ 24	0	24	
T0843	0%	+ 24	0	24	
T0225	0%	+ 24	0	24	
T0861	[redacted] 44 %	+ 23	25	48	
T0621	0%	+ 23	0	23	
T0622	0%	+ 23	0	23	
T0862	[redacted] 44 %	+ 23	25	48	
T0702	[redacted] 0.7%	+ 22	2	24	
T0732	[redacted] 7 %	+ 19	5	24	
T0700	[redacted] 8 %	+ 19	5	24	
T0726	[redacted] 26 %	+ 14	10	24	

FIG. 18